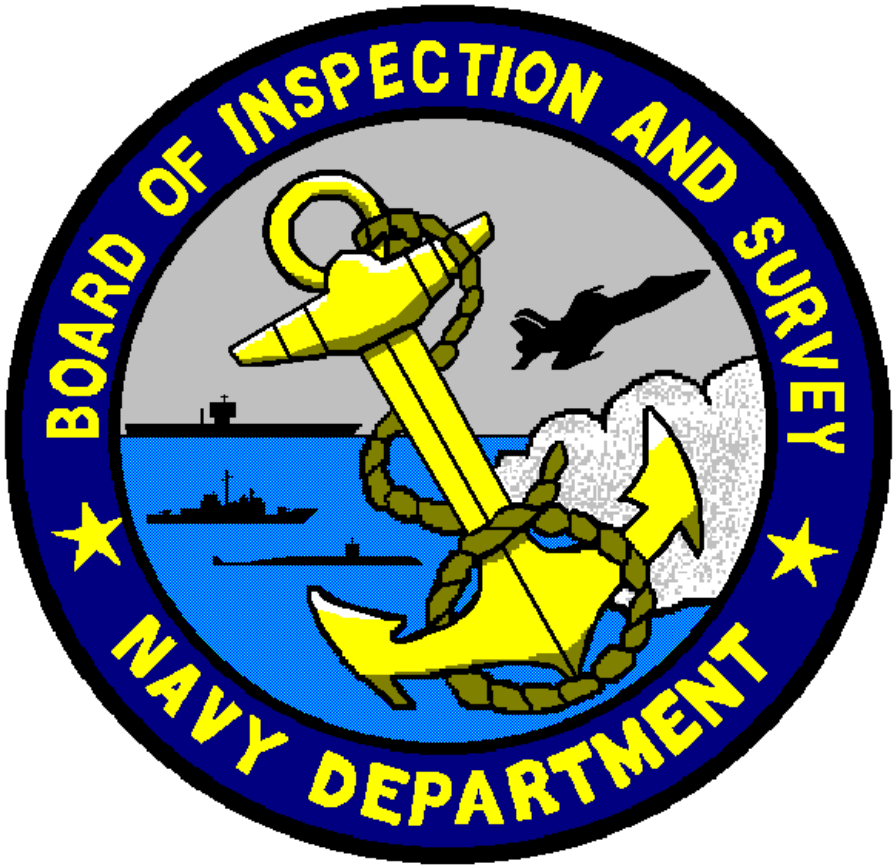

ENGINEERING CHECKS

LHA 1 CLASS (Rev 8)

AUXILIARIES (AX)
PRE-UNDERWAY PHASE
[LHA 1 CLASS MASTER CHECKLIST REV 3]

5811	ANCHOR WINDLASS
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual Support	NAVSEA/OEM TECH MANUAL
Inspect PMS Support	A-005/366 A-005/418 5811/802
Inspect posted operating/safety instructions and lubrication data	NAVSEA/OEM TECH MANUAL
Test Operate Anchor Windlass with No-Load	A-005/418 U-4 5811/802 R-3
Inspect Fluid Samples	A-005/366 A-7 NSTM 262
Inspect for proper HPU fluid levels	5811/802 R-2 NAVSEA/OEM TECH MANUAL
Inspect anchor windlass lubrication IAW PMS requirements	A-005/366 S-2R A-005/366 Q-1R 5811/802 R-2
Inspect handbrake is adjusted IAW PMS requirements (recommend within 30 days of MI)	5811/802 R-2 A-005/366 A-6
Inspect magnetic brake is adjusted IAW PMS requirements (recommend within 30 days of MI)	5811/802 R-2 A-005/366 A-1
Inspect brake linkage assembly	5811/802 R-2 A-005/418 U-4
Test wildcat/windlass solenoid switch	n/a
Inspect Gauge Calibration	5811/802 R-2 CRL
Inspect relief valve data is properly posted (if data is not posted, then ship must conduct relief valve test)	NAVSEA/OEM TECH MANUAL
Inspect all flex hoses are properly tested and labeled	NAVSHIPYD PUGET SOUND 261925Z APR99
Inspect flange shields	NSTM 505
Inspect for adequate nitrogen charge for windlass	n/a
Inspect speed limiter	n/a
Inspect for adequate LP air pressure for chain compressor	n/a
Inspect filter differential indications	NAVSEA/OEM TECH MANUAL
Inspect HPU mechanical seal leakage	NSTM 503
Inspect Servo/Replenishment pressures during wildcat operation	5811/802 R-3 NAVSEA/OEM TECH MANUAL
Inspect Chain Compressor operation	n/a
Inspect reduction gear lubrication (gauges/sight flows/dipsticks)	5811/802 R-3 NAVSEA/OEM TECH MANUAL
Test crossover valve operation	5811/802 R-3 NAVSEA/OEM TECH MANUAL

5600 / 5611	STEERING (Inport System Verification)
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	NAVSEA/OEM TECH MANUAL and EOSS
Inspect PMS Support	5611/815 A-001/302
Inspect operating/safety instructions and hydraulic system/electrical wiring diagrams are posted	NAVSEA/OEM TECH MANUAL
Inspect fluid samples	A-001/302 S-4R NSTM 262
Inspect static mechanical checks	5611/815 R-2 NAVSHIPYD PUGET SOUND 261925Z APR99
Inspect relief valve test tags are within periodicity (if not, test compensator relief valve settings)	n/a
Inspect relief valve test tags are within periodicity (if not, test main relief valve settings)	NAVSEA/OEM TECH MANUAL
Inspect flange shields are properly installed	NSTM 505
Inspect steering gear lubrication	A-001/302 R-8
Inspect trick wheel assembly	A-001/302 R-5 5611/815 R-2
Test N2 accumulator charge	A-001/302 R-3 5611/815 R-2
Inspect proper fluid levels	NAVSEA/OEM TECH MANUAL
Inspect filter indicators	5611/815 R-2
Inspect rudder ram finish	5611/815 R-2
Inspect rudder ram cylinders for leaks	5611/815 R-2
Inspect gauge calibration	CRL
Inspect rudder stock grounding straps and post lubrication	A-001/302 R-10 NSTM 562
Inspect servo/replenishment pressures are correct	5611/815 R-2
Test the rudder follow up error (1 deg increments at 0 to 5 deg; 5 deg increments at 5 to 25 deg)	5611/815 R-2
Test the trick wheel stops	5611/815 R-2
Inspect the crush block clearances	5611/815 R-2
Test (inport) rudder swing checks	5611/815 R-2
Test (inport) blocking valve	NSTM 562
Test auxiliary emergency steering pump	n/a
Test manual emergency steering system	5611/815 R-2
Test steering casualty alarm	EOSS
Test pump remote operation and transfer of controls to pilot house	5611/815 R-2 EOSS
Test for static rudder split (pilot house in control)	n/a
Test for indicator error (pilot house in control)	5611/815 R-2 NSTM 562

5210	FIRE PUMPS (ELECTRIC and STEAM)
Component/Sub-Component	Proposed Procedure
ALL FIRE PUMPS	
Inspect Tech Manual / EOSS support	EOSS NAVSEA/OEM TECH MANUAL
Inspect PMS support	5210/806
Inspect gauge calibration	CRL
Inspect transducer calibration	CRL
Inspect pump, motor (casing, packing/mechanical seal, coupling, etc.)	5210/806 R-3/4/14/15/30/33/34 NSTM 503
Inspect coupling guard	5210/806 R-3/4/33/34 OPNAVINST 5100.19
Inspect foundation	5210/806 R-3/4/33/34 NSTM 503
Inspect ferrous fasteners	5210/806 R-3/4/33/34 NSTM 075, 505
Inspect resilient mounts	5210/806 R-3/4/14/15/30/33/34 NSTM 503 NAVSEA S9073-A2-HBK-010
Inspect grounding straps	5210/806 R-3/4/33/34 NSTM 300
Inspect piping & supports	5210/806 R-14/15/30 NSTM 505
Inspect all flex hoses are properly tested/labeled	5000/009 A-1/A-2 5000/014 A-1/A-2 NAVSHIPYD PUGET SOUND 261925Z APR99
Inspect piping lagging	5210/806 R-14/15/30 NSTM 505, 635
Inspect the suction strainer	EOSS NAVSEA/OEM TECH MANUAL
Test remote motor/hydraulic operated suction/discharge valves Inspect local valves and remote control station (labeling, position indicators, etc). Inspect MHVC station oil level and relief valve test periodicity	EOSS 5210/806 R-14/15/30 5000/005 S-4, A-3 5000/006 2M-1, 36M-4
Test remote start/stop functions	EOSS
Test local start/stop functions	EOSS
Inspect pump operation (design discharge pressure, gages, unusual noise, bearing temps, etc).	EOSS NAVSEA/OEM TECH MANUAL
Inspect for proper seating of check valve and no reverse rotation upon securing pump	NAVSEA/OEM TECH MANUAL
STEAM DRIVEN FIRE PUMPS	
Inspect lube oil filter indications and oil level	N/A
Test the over speed trip	N/A
Test the speed limiting governor	N/A
Test the turbine auxiliary lube oil pump low-pressure automatic start switch operation	N/A
Test combination exhaust and relief valve	N/A

5512 / 5513 / 5515	LOW and MEDIUM PRESSURE AIR SYSTEM
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	
Inspect PMS Support	
Inspect Gauge Calibration	
Inspect operating/safety instructions are posted	
Inspect compressor oil level and oil samples	
Test compressor pressures and temperatures	
Test compressor capacity control system	
Inspect compressor belt condition	
Test compressor auto control and safety switches	
a. Operational control switches (115/120/125)	
b. Low oil pressure	
c. High discharge pressure	
d. High air and water temp	
Inspect all relief valve testing is within periodicity	
Inspect location of intake/vent supply	
Inspect receiver flask certification	
Test priority valve operation	
Inspect sea water cooling system	
Inspect 50/50 mixture of ethylene glycol	
Test type I and type II dehydrator operation	
a. Gauge calibration	
b. Tower operation	
c. Purge air pressure	
d. Automatic drain operation	
e. Dew point	
f. Inspect PMS and Tech Manual support	

5511 / 5515	HIGH PRESSURE AIR SYSTEM
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	
Inspect PMS Support	
Inspect Gauge Calibration	
Inspect operating/safety instructions are posted	
Inspect compressor oil level and oil samples	
Test compressor auto control and safety switches	
a. Start / Stop switch	
b. Low oil pressure switch	
c. Jacket water temp switch	
d. Compressor temp/pressure monitor operation	
Inspect compressor pressures and temperatures	
Inspect compressor drive belt condition	
Inspect condensate monitoring/drain system	
Inspect all flex hoses are properly tested/labeled	
Inspect all relief valve testing is within periodicity	
Inspect HP air flask certification	
Inspect sea water cooling system	
Inspect air intake/ventilation supply location	
Inspect all HP/LP air reducing stations	
Inspect fresh water pump belts	
Inspect capacity	
Inspect oil wipers	
Inspect pressure regulator valve	
Inspect 50/50 mixture of ethylene glycol	
Inspect seals for oil leaks	

A-002/105-11	EMERGENCY/SHIP'S SERVICE DIESEL GENERATORS
Component/Sub-Component	Proposed Procedure
Note: Overspeed trip is not required if DEI has conducted within the last ninety days and documentation of satisfactory performance is available.	Note: Dead Bus Pick-up & Reverse Power Relay checks are covered under EL.
Inspect Engine Sump Level	EOSS
Inspect Turbocharger Sump Level	EOSS
Inspect Start Air Lubricator Oil Level	EOSS
Inspect Governor Oil Level	EOSS
Inspect Lube Oil Sample	A-002/015 R-60D
Inspect J/W Expansion Tank Level	EOSS
Inspect "Do not open access…" and Expansion Tank warning "Poison…" are posted	NAVSEA/OEM TECHMAN
Inspect/test fuel valve trip	EOSS
Inspect Relief Valves	A-002/015 R-16
Inspect Flange Shielding	NSTM 505
Inspect For Exhaust Leaks	EOSS
Inspect Filters, Strainers	A-002/015 S-3R,S-7,A-1R
Inspect Governor and Fuel Linkage for Binding	A-002/015 A-3R
Inspect J/W Standby Pump	EOSS
Test Blow In Damper	EOSS
Test pre-lube system operation	EOSS
Test Jacket Water High Temp Alarm	A-002/015 A-10
Test Lube Oil Filter High DP Alarm	NAVSEA/OEM TECH MANUAL
Test low lube oil pressure alarm	A-002/015 S-2R
Test Remote Shut Down	A-002/015 S-2R
Test Local Shut Down	EOSS
Test Barring Device Interlock	EOSS
Test Engine Blow Down	EOSS
Test Local Pneumatic start	EOSS
Test Overspeed Trip	A-002/015 S-2R
Test 80% load for 15 minutes	A-002/015 Q-4
Inspect for fuel/lube oil leaks	EOSS
Inspect pyrometer operation	A-002/015 A-9R
Inspect manometer	A-002/015 A-9R
Inspect sea water cooling pump	EOSS
Test high water/generator bearing temp alarm	

6651	BFIMA WORKSHOPS
Component/Sub-Component	Proposed Procedure
Inspect BFIMA matrix and determine the required capabilities for the ship	BFIMA Standards
Inspect the following items as they pertain to the applicable workshops:	BFIMA Standards
- PMS and Tech Manual Support of all installed equipment	BFIMA Standards
- Test operational condition of all installed equipment (E-stops, cutting fluid etc).	BFIMA Standards
- Test all installed equipment in their capacity	BFIMA Standards
- Inspect the monorail layout and ensure it supports the function of the workshop	BFIMA Standards
- Inspect all gauge calibration (calipers)	CRL
- Inspect correct software/hardware present	BFIMA Standards
- Inspect correct/adequate cutting fluids and oils are present	BFIMA Standards
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- Shops	
- Machine Shop	BFIMA Standards
- Welding Shop	BFIMA Standards
- Filter Cleaning Shop	BFIMA Standards
- Engraving Shop	BFIMA Standards
- Sheet Metal Shop	BFIMA Standards
- Motor Rewind Shop	BFIMA Standards
- Carpenter Shop	BFIMA Standards
- Valve Shop	BFIMA Standards
- Internal Combustion Engine Shop	BFIMA Standards
- Pipe Shop	BFIMA Standards
- Hydraulic Shop	BFIMA Standards
- Shipfitting Shop	BFIMA Standards
- AC&R Shop	BFIMA Standards
- Pump Shop	BFIMA Standards

5140	AIR CONDITIONING PLANTS
Component/Sub-Component	Proposed Procedure
CENTRIFUGAL UNITS (R-114, R-236fa) **RECIPROCATING UNITS (R-12, R-134a)** **(check items below as applicable)**	
Note: Some units are not equipped with isolation valves for pressure testing. Transferring a large amount of refrigerant would be required to test and is not advisable. For these installations, switch operation will be accomplished by operational means (e.g., securing/aligning s/w, turning the aux lube oil pump on/off, turning the c/w pump on/off).	Note: Applicable MRCs are used as guides to demonstrate a particular component's performance. Some MRCs may not be accomplished in their entirety.
Inspect Tech Manual / EOSS support	NSTM 516 NAVSEA/OEM Tech Manual
Inspect PMS support	5140/011 (R-114) 5140/013 (R-236fa) 5140/804 (R-114 & R-236fa)
Inspect operating/safety instructions are posted	GSO 516, 602 OPNAVINST 5100.19 NAVSEA/OEM Tech Manual
Inspect refrigerant logs	5140/011 M-4R 5140/013 M-4R
Inspect material condition	5140/804 R-2
Inspect compressor oil level, oil sample	5140/010 R-6 5140/012 R-6 EOSS
Inspect moisture indicators	5140/011 W-1R 5140/X11 2W-1 5140/013 W-1R
Inspect hermetic motor sight glass	5140/011 M-2 5140/013 M-2
Inspect gauge calibration	CRL
Verify calibration & operation of high pressure switch (236fa)	5140/013 A-8
Verify calibration & operation of pressure transducers (236fa)	5140/013 24M-4
Inspect oil accumulator pressure (236fa)	5140/013 M-1
Test safety/control pressure switch device settings and operation High pressure safety/control switch Low pressure safety/control switch Water pressure failure safety switch Oil failure/low oil pressure/differential oil pressure switch Oil temperature safety switch Compressor low pressure control switch Chill water pressure/differential flow switch Low refrigerant temp switch Chill water operating/low temp switch Thermostatic Expansion Valve (TXV)	5140/011 36M-1, R-4 5140/X11 18M-3
Inspect/test for system leaks (refrigerant/oil/water)	5140/804 R-3 5140/011 S-1R 5140/X11 S-1R 5140/013 S-1R NSTM 516 Sec. 3
Inspect for compressor shaft seal leaks	5140/804 R-3 5140/011 Q-3 5140/013 Q-3 NSTM 516 Sec. 3
Inspect coupling guard	OPNAVINST 5100.19 NAVSEA/OEM Tech Manual
Operate/test unit, verify operating parameters, Test capacity control system operation (pressure, temperature) Test current limiter, electronic control module (as applicable) Verify operation of Pre-Rotational Vanes (PRV) & Hot Gas By-Pass Valve (HGBP) (centrifugal units) Inspect capacity control external pneumatic vent connection for proper venting (applies only to Carrier compressors equipped with hydraulic cap control) Test Water Regulating Valve (WRV)	5140/804 R-4/5/12 5140/011 A-8R/9R 5140/013 A-8/9 EOSS NAVSEA/OEM Tech Manual
Test compressor suction and discharge valves (reciprocating units)	N/A
Inspect/test chill water pump Bearing lubrication Operating parameters Mechanical seal leakage Pump discharge check valve seat tightness Coupling guard	NSTM 503, GSO 503 EOSS NAVSEA/OEM Tech Manual OPNAVINSTR 5100.19

Inspect Chill Water Expansion Tank Operating level Filling air gap Hose connection warning sign Relief valves and vacuum breakers	5140/011 24M-2 5140/013 24M-2 NSTM 516, 533 GSO 602 EOSS
Inspect sea water system & controls Operate emergency cooling water reducing station Reducing valve and station pilot valve sensing line strainer Seawater regulating valve Condenser (O&I as required) Zinc anodes (O&I as required) Headers, tube sheet, divider plate (O&I as required) Strainers (Hellan, Y, Duplex) (O&I as required)	5140/804 R-3 5140/011 R-1/13, M-3R, Q-5, S-3R, A-10R 5140/X11 M-1R, R-13 5140/013 R-13, M-3R, Q-5, S-3R, A-10R 5000/015 (A or R checks as applicable to installation) NSTM 516 EOSS NAVSEA/OEM Tech Manual
Inspect/test sea water pump (as applicable) Operating parameters Bearing lubrication Mechanical seal leakage Pump discharge check valve seat tightness Coupling guard	NSTM 503, GSO 503 EOSS NAVSEA/OEM Tech Manual OPNAVINSTR 5100.19
Inspect resilient mounts	5140/011 A-4R 5140/013 A-4R NAVSEA S9073-A2-HBK-011
Inspect grounding straps	NSTM 300
Inspect flexible hoses	5000/009 A-1/2 5000/014 A-1/2
Inspect vent exhaust ducting terminal (flow, location, indicators and alarms)	NSTM 516 Sec 4
Inspect cylinder stowage racks	NSTM 516 GSO 516, 671
Inspect replacement refrigerant charge	GSO 516
Inspect lube oil filter/strainer (O&I as required)	5140/011 R-6 5140/013 R-6
Inspect dehydrator (O&I as required)	5140/011 R-3 5140/013 R-3
Inspect/test refrigerant Purge and Pump Out (PPO) unit/Refrigerant Recovery Unit (RRO) Moisture indicator Oil level Belt drive & belt guard (tension & condition) Compressor cycling (high pressure) switch Material condition (O& I as required) Dehydrator cartridge (O&I as required)	A/C& R Advisory #32 5140/011 36M-1, R-5 5140/013 A-8, R-5 EOSS NAVSEA/OEM Tech Manual
Verify halocarbon monitor installation is compatible with refrigerant type. Test halocarbon monitor	NSTM 516 OPNAVINST 5100.19 GSO 516
Inspect for non-condensable gases (as required by when compressor discharge pressure cannot be maintained with WRV)	NSTM 516

5161	**REFRIGERATION PLANTS**
Components/Sub-Components	Proposed Procedure
Inspect Tech Manual / EOSS support	NSTM 516 NAVSEA/OEM Tech Manual
Inspect PMS support	5161/001 (R-12) 5161/005 (R-134a) 5161/800 (R-12 & R-134a)
Inspect operating/safety instructions are posted	GSO 516, 602 OPNAVINST 5100.19 NAVSEA/OEM Tech Manual
Inspect refrigerant logs	5161/001 M-2R 5161/005 M-2R
Inspect compressor oil level, oil sample	5161/001 R-12D 5161/005 R-12D EOP NAVSEA/OEM Tech Manual
Inspect moisture indicators	5161/001 W-1R 5161/005 W-1R
Inspect capacity control external pneumatic vent connection for proper venting (applies only to Carrier compressors equipped with hydraulic cap control)	NSTM 516 NAVSEA/OEM Tech Manual
Inspect prerotational vane operation and controls	NSTM 516 NAVSEA/OEM Tech Manual
Inspect gauge calibration	CRL

Test safety/control pressure switch device settings and operation High pressure safety/control switch Low pressure safety/control switch Water pressure failure safety switch Oil failure/low oil pressure/differential oil pressure switch Compressor low pressure control switch Chill water pressure/differential flow switch Low refrigerant temp switch Chill water operating/low temp switch Thermostatic Expansion Valve (TXV)	5161/800 R-4 5161/001 18M-2, 18M-4, U-3/4 5161/005 18M-2, 18M-4, U-3/4 NSTM 516 NAVSEA/OEM Tech Manual
Inspect/test for system leaks (refrigerant/oil/water)	5161/800 R-5 5161/001 S-1R 5161/005 S-1R NSTM 516 Sec. 3
Inspect for compressor shaft seal leaks	NSTM 516 Sec. 3
Inspect coupling guard	OPNAVINST 5100.19 NAVSEA/OEM Tech Manual
Inspect drive belts and belt guards	5161/800 R-5 5161/001 18M-1 5161/005 18M-1
Operate/test unit, verify operating parameters, and verify capacity control system operation	5161/800 R-6 5161/001 18M-2 5161/005 18M-2 EOP NAVSEA/OEM Tech Manual
Test compressor suction and discharge valves	5161/800 R-4 5161/001 U-1 5161/005 U-1
Test/verify evaporator pressure regulator (EPR) and water regulating valve (WRV) setting and operation	5161/800 R-6
Inspect for non-condensable gases (as required by when compressor discharge pressure cannot be maintained with WRV)	5161/001 Q-5R 5161/005 Q-5R
Test/verify refrigeration room door safety device, inspect door seals	5161/001 S-4R 5161/005 S-4R
Inspect gravity type cooling coils for excessive frost build-up	NSTM 516 Sec 4
Inspect drip trough heating coils/cables and indicator lights	NSTM 516 Sec 4
Inspect refrigerator room recirculating fans and indicator light, verify damper operation	GSO 516 NSTM 516 Sec 4

Inspect sea water system Condenser Zinc anodes (O&I as required) Headers, tube sheet, divider plate (O&I as required) Operate emergency cooling water reducing station Stainers (Hellan, Y, Duplex) (O&I as required) Reducing valve and station pilot valve sensing line strainer	5161/800 R-3 5161/001 S-3R, Q-4R, R-13D 5161/005 S-3R, Q-4R, R-13D 5000/015 (A or R checks as applicable to installation) NSTM 516 EOSS NAVSEA/OEM Tech Manual
Inspect resilient mounts	NAVSEA S9073-A2-HBK-010
Inspect grounding straps	NSTM 300
Inspect flexible hoses	5161/001 A-7/8/10/11 5161/005 A-7/8/10/11 5000/009 A-1/2 5000/014 A-1/2
Inspect vent exhaust ducting terminal (flow, location, indicators and alarms)	NSTM 516 Sec 4
Inspect cylinder stowage racks	NSTM 516 GSO 516, 671
Inspect replacement refrigerant charge	GSO 516
Inspect liquid line strainers and filters (O&I as required)	5161/001 R-8 5161/005 R-2, R-8
Inspect dehydrator (O&I as required)	5161/001 A-2R 5161/005 A-2R
Inspect refrigerant recovery unit and vacuum pump	NAVSEA/OEM Tech Manual
Verify halocarbon monitor installation is compatible with refrigerant type Test halocarbon monitor	NSTM 516 OPNAVINST 5100.19 GSO 516

8543	PACKAGE CONVEYOR
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	
Inspect PMS Support	
Inspect posted operating/safety instructions (two man rule/ do not ride) at each station	
Inspect posted lubrication chart at top station	
Test for audible warning when starting conveyor	
Inspect that all station doors are locked	
Inspect that all station controllers are locked	
Test door interlock system	
Inspect load/unloader at each station	
Test door cannot close when loader/unloader is in horizontal or 30 deg inclined position	
Test loader/unloader down interlock switch at each station below upper most level	
Test jam limit switch at each station	
Inspect safety shields are properly installed	
Test up-over travel switch/device operation	
Test clean out door interlock switch if applicable	
Test down overtravel device and switch	
Test indexing feature	
Test E-stop and run/stop buttons at all stations	
Inspect proper florescent lighting at each station	
Inspect trunk shielding and mounting hardware	
Inspect trunk guide rails	
Inspect conveyor trunk for preservation/cleanliness	
Inspect all carrier trays are installed and tight	
Test all station growlers and phone circuits are functional and headsets are present	
Inspect conveyor has been load tested within the last five years to include weight test data	
Inspect speed reducer is filled to proper level with oil	
Inspect drive, driven and carrier chains are properly tensioned	
Test bite panel for correct components and proper operation	
Inspect motor controller for loose leads, posted placards, grounds and correct fuses	
Inspect drive machinery for missing/loose components	

8543	DUMBWAITER
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	
Inspect PMS Support	
Inspect posted operating/safety instructions at each station	
Inspect posted lubrication chart at top station	
Inspect trunk bi-parting doors	
Inspect machinery access cover bolts & nuts	
Inspect machinery oil level	
Inspect hoist machinery mounting hardware	
Inspect hoist drum	
Inspect hoist wire rope and end fittings	
Test slack rope device and limit switch	
Test the hoist brake	
Test the up over travel limit switch	
Test the up deck level limit switch	
Test trunk bi-parting door limit switch	
Inspect car broken rope device	
Inspect car bi-parting door assembly	
Inspect car for missing components	
Test lower level trunk bi-parting doors and limit switch	
Test down over travel limit switch	
Test down level limit switch	
Inspect trunk buffer springs	
Test E-call and sound powered phone system when installed	
Inspect clean out cover mounting hardware	
Inspect motor controller for loose leads, posted placards, grounds and correct fuses	
Inspect dumbwaiter trunk for preservation and cleanliness	
Inspect guide rails	
Test each control station E-stop button	

5331	POTABLE WATER PUMPS
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual / EOSS Support	EOSS NAVSEA/OEM Tech Manual
Inspect PMS Support	5331/800
Inspect Gauge Calibration	CRL
Inspect Transducer Calibration	CRL
Inspect Coupling Guard	OPNAVINST 5100.19 NAVSEA/OEM Tech Manual
Test local & remote start/stop functions of potable water pump and priming pump	EOSS 5331/800 R-2/3
Inspect potable water pump and priming pump operation/design discharge pressure, unusual noise, bearing temps, etc.	EOSS 5331/800 R-2/3 NSTM 503 NAVSEA/OEM Tech Manual
Inspect reduced pressure, vacuum breaker and double check valve backflow preventer	5331/800 R-4/5/6
Inspect packing/mechanical seal leakage	NSTM 503
Inspect for dissimilar metals (fasteners & piping)	NSTM 075
Inspect foundation and resilient mounts	5331/800 R-2 NAVSEA S9073-A2-HBK-010 NSTM 300, 508
Inspect all flex hoses are properly tested/labeled	5000/009 A-1/2 5000/014 A-1/2 NAVSHIPYD PUGET SOUND 261925Z APR99
Inspect grounding straps	NSTM 300
Test potable water pump pressure switch	N/A

5331	WATER HEATERS
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	NAVSEA/OEM TECH MANUAL
Inspect PMS Support	A-181/001 A-025/082
Inspect gauge calibration	CRL
Inspect relief valve test data	A-181/001 36M-1
Inspect relief valve drain piping	A-181/001 A-3 NAVSEA/OEM TECH MANUAL
Inspect cold water inlet pipe for check valve	NAVSEA/OEM TECH MANUAL
Test safety thermostatic switch	A-181/001 36M-2R
Test over-temp safety device	A-181/001 36M-2R
Inspect lagging condition	NSTM 505
Inspect for steam / water leaks	NSTM 505
Inspect Temp Reg Valve for locking device	NAVSEA/OEM TECH MANUAL
Inspect heater foundation	A-181/001 A-2
Test water temp at basin/spigot	A-181/001 A-2

6641	FAN ROOMS
Component/Sub-Component	Proposed Procedure
Inspect deck condition	GSO 509, 512, 528, 670
- No standing water	GSO 509, 512, 528, 670
- Deck rusted / exfoliated	GSO 509, 512, 528, 670
- Deck drain not installed	GSO 509, 512, 528, 670
- Deck drain missing, not secured within deck socket or inoperative	GSO 509, 512, 528, 670
Inspect deck/bulkheads have no painted over rust	GSO 509, 512, 528, 670
Inspect lighting is operative and covers installed	GSO 509, 512, 528, 670
Inspect adequate lighting present in space	GSO 509, 512, 528, 670
Inspect vent duct condition	GSO 509, 512, 528, 670
- Access covers present	GSO 509, 512, 528, 670
- Access cover fasteners not rusted/missing	GSO 509, 512, 528, 670
- Duct interior is clean	GSO 509, 512, 528, 670
Inspect correct vent/piping system labeling	GSO 509, 512, 528, 670
Inspect fan motor installed correctly (flow)	GSO 509, 512, 528, 670
Inspect filters are clean and can be easily removed	GSO 509, 512, 528, 670
Inspect filter DP gauge is operative	GSO 509, 512, 528, 670
Inspect vent heating element is operative and not deteriorated	GSO 509, 512, 528, 670
Inspect cooling coils are clean	GSO 509, 512, 528, 670
Inspect thermostatic controls are calibrated, connected and operational	GSO 509, 512, 528, 670
Inspect the cooling coil drain is piped to the deck drain and is not clogged	GSO 509, 512, 528, 670
Inspect the proper color coding of piping	GSO 509, 512, 528, 670
Inspect that all hand wheels are present	GSO 509, 512, 528, 670
Inspect for damaged / missing lagging	GSO 509, 512, 528, 670
Test the C/W or steam solenoids are operational	GSO 509, 512, 528, 670
Inspect for chilled water / steam leaks	GSO 509, 512, 528, 670
Inspect for bull's eye and CCOL in space	GSO 509, 512, 528, 670
Inspect for any unauthorized stowed material	GSO 509, 512, 528, 670
Inspect for any unauthorized flammables	GSO 509, 512, 528, 670
Inspect the filter cleaning shop	GSO 509, 512, 528, 670

5681	BOW THRUSTER
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual Support	NAVSEA/OEM TECH MANUAL
Inspect PMS Support	A-171/004
Inspect gauge calibration	CRL
Inspect posted operating/safety instructions and lubrication data	NAVSEA/OEM TECH MANUAL
Inspect fluid samples	A-171/004 M-1 NSTM 262
Inspect for proper hydraulic oil levels (hydraulic power system, speed decreaser gearcase, gravity head tank)	EOSS A-171/004 R-6
Inspect hydraulic oil filters	5681/004 R-1 NAVSEA/OEM TECH MANUAL
Inspect lubrication of components (cable sheave, dust boot, flex coupling, drive motor upper & lower thrust bearing, jet pump thrust bearings, flex coupling, rotary pump motor bearings, radial load bearings)	A-171/004 S-2, A-3
Inspect right angle drive unit	A-171/004 60M-2
Inspect drive shaft clutch assembly	A-171/004 24M-2
Inspect flex hoses	5000/009 A-1/A-2 5000/014 A-1/A-2 NAVSHIPYD PUGET SOUND 261925Z APR99
Inspect bow thruster system	A-171/004 R-5
Test hydraulic system pressure switch	N/A
Test hydraulic system relief valve	5681/004 U-1
Inspect bow thruster shaft sealing systems	NAVSEA/OEM TECH MANUAL
Test bow thruster interlocks	N/A
Test bow thruster operation	5681/004 R-4W
Review latest underwater hull inspection report for external conditions (bow thruster tunnel zinc anodes, marine fouling, etc.)	U/W HULL INSPECTION REPORT DOCKING REPORT

5842/A-262	STERN GATE
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual support	NSTM 584, 556 NAVSEA/OEM TECH MANUAL
Inspect PMS support	A-262/036
Inspect operating/safety instructions are posted	NSTM 584, 556 NAVSEA/OEM TECH MANUAL OPNAVINST 5100.19
Inspect hydraulic oil fill connections are labeled and lube chart installed	NAVSEA/OEM TECH MANUAL
Inspect oil level, oil sample, bring system up to normal operating temps/pressures	A-262/036 R-3
Inspect Local Control Panel (indicator lights, communications, operation)	A-262/036 M-1
Inspect gauge calibration	CRL
Inspect filter indicators	A-262/036 R-1
Inspect all relief valve testing is within periodicity and conduct in-place verification of relief valve setting.	A-262/036 R-8
Inspect all flex hoses are properly tested/labeled	5000/009 A-1/2 5000/014 A-1/2 NAVSHIPYD PUGET SOUND 261925Z APR99
Test safety switches/interlocks as applicable to installation (up limit; up over travel limit; closure down; sea force; dead-man switch; E-stop; slack rope)	A-262/036 S-7R, S-8
Inspect, operate & test hydraulic pump	
- foundation condition	NSTM 503
- inspect relief valve testing is within periodicity and conduct in-place verification of relief setting	A-262/036 R-8
- leaks, mech seal	NSTM 503, 556
- filter indicators	A-262/036 R-1
- test HPU low oil level alarm & light	N/A
Operate gates (upper & lower)	
- Cycle gate open/closed from all stations	A-262/036 M-1
- Record time required to open/close gate	GSO 584e no PMS rqmt located
- Test stern gage closure emergencyoperator (e.g., pnuematic, hand pump, etc.)	NAVSEA/OEM TECH MANUAL or Local Procedure
Inspect rail bolts	N/A
Inspect gate locking device (e.g., dogs)	A-262/036 M-1
Inspect ram and track condition (e.g. cylinder side plates)	A-262/036 18M-2
Drift Test (e.g. per FTSCL tech, applies to certain ram packing designs)	N/A
Inspect gate seal for deterioration & leakage	NAVSEA/OEM TECH MANUAL WELL DECK MANUAL
Inspect gate connecting link welds, stern gate structure	N/A
Inspect and operate LCAC extension fendering system	N/A
Inspect emergency rigging. Cycle operate emergency winch. Conduct visual inspection of chain/ sheaves/ shackles - DO NOT RIG.	A-262/036 18M-1, S-2
Test: Conduct underway operational test during ballast/deballast demonstration	PMS/ NAVSEA/OEM TECH MANUAL/ LOCAL PROCEDURE

A-702/020-61	DEBALLAST COMPRESSORS
Component/Sub-Component	Proposed Procedure
Inspect Tech Manual and EOSS Support	
Inspect PMS Support	
Inspect Gauge Calibration	
Inspect operating/safety instructions are posted	
Inspect compressor oil level and oil samples	
Inspect all relief valve testing is within periodicity	
Inspect the seawater cooling system	
Inspect installed alarm panel operation	
Test compressor safety switches	
a. low lube oil pressure cutout	
b. High air pressure cutout	
c. High temperature lube oil shutdown	
d. High temperature lube oil alarm	
e. Dirty air filter alarm	
f. Dirty air filter cutout	
Test operational remote/local start/stop /Controller	
Test check valve in the discharge line	
Test unloader valve	
Inspect de-ballast air header valves	
Test header pressure can be maintained	
Test the discharge pressure	
Test: Conduct underway operational test during ballast/deballast demonstration	

5351	STEAM RISER and COPPER SERVICE STEAM PIPING
Component/Sub-Component	Proposed Procedure
Inspect Gauge calibration	CRL
Inspect PMS Support	5000/013
Inspect warning placard posted – warning bleed pressure before disconnecting…	SIB
Inspect piping/valve condition and operation	NSTM 505
Inspect protective cover	NSTM 505
Inspect relief valve for test data	5000/013 72M-2
Inspect overall area preservation	6300/001 S-1

Inspect ship has reviewed NAVSEA Wash DC R 130557Z FEB 01 concerning copper piping	NAVSEA Wash DC R130557ZFEB01
Inspect the ship has established an inspection program IAW NAVSEA message	NAVSEA Wash DC R130557ZFEB01
Inspect - Conduct a walkthrough of all copper service steam piping to check for leaks IAW NAVSEA message	NAVSEA Wash DC R130557ZFEB01

AUXILIARIES (AX)
UNDERWAY DEMO PHASE
[LHA 1 CLASS MASTER CHECKLIST REV 3]

5811	ANCHOR WINDLASS DROP AND RETRIEVAL DEMONSTRATION
Component/Sub-Component	Proposed Procedure
Test Operate Anchor Windlass with Load	A-005/418 U-4 5811/802 R-4
Test Mechanical Handbrake	A-005/418 U-4 5811/802 R-4
Inspect Servo/Replenishment and Main Relief Pressures during wildcat operation	A-005/418 U-4 5811/802 R-4
Inspect Anchor drops from the hawsepipe	A-005/418 U-4 5811/802 R-4
Test Magnetic brake	A-005/418 U-4 5811/802 R-4
Inspect motor amperage readings	5811/802 R-4 NAVSEA/OEM TECH MANUAL

5600 / 5611	STEERING DEMONSTRATION
Component/Sub-Component	Proposed Procedure
Inspect proper fluid levels	NAVSEA/OEM TECH MANUAL
Inspect correct Servo/Replenishment pressures	5611/815 R-2
Test - Demonstrate timed rudder swing checks/ blocking valve test Ahead (as per provided procedure)	A-001/302 R-6 NSTM 562 INSURV NOTE
Test - Demonstrate timed rudder swing checks/ blocking valve test Astern (as per provided procedure)	A-001/302 R-6 NSTM 562 INSURV NOTE
Inspect for dynamic rudder split from helm indicator	NSTM 562

5311	WATER PRODUCTION DEMONSTRATION – FLASH TYPE EVAPS
Component/Sub-Component	Proposed Procedure
Note: Pre-U/W - AX to verify distillers are operational, calibration & safety relief valves are within periodicity. Detailed material inspections are normally conducted during u/w water production.	Note: Pre-U/W - EL will inspect salinity panel & dump valves.
Inspect PMS and Tech Manual support	NAVSEA/OEM TECHMAN 5311/014 5311/805
Inspect gauge calibration	CRL 5311/805 R-3
Test flow meter	NAVSEA/OEM TECHMAN
Inspect evaporator shell (sight glasses, diffuser cap and scale buildup) & feed heater relief valve	5311/805 R-3
Test interlock device between potable water and feed water valves	NAVSEA/OEM TECHMAN
Inspect feed pump (labeled, packing gland, foundation, seal / gland cavity)	5311/805 R-3
Inspect brine pump (labeled, packing gland, foundation, seal / gland cavity)	5311/805 R-3
Inspect distillate pump (labeled, packing gland, foundation, seal / gland cavity)	5311/805 R-3
Inspect brine pump (labeled, packing gland, foundation, seal / gland cavity)	5311/805 R-3
Inspect heater drain pump (labeled, packing gland, foundation, seal / gland cavity)	5311/805 R-3
Inspect flexible hose condition and test tag	5000/009 A-1/A-2 5000/014 A-1/A-2
Inspect feedwater strainer (foundation and basket)	5311/014 R-8
Inspect pipe labeling and lagging condition	NSTM 505/635
Test - Demonstrate water production capability during the 4 Hour Water Production Demonstration	NAVSEA/OEM TECHMAN

5315	WATER PRODUCTION DEMONSTRATION – REVERSE OSMOSIS
Component/Sub-Component	Proposed Procedure
Note: Pre-U/W - AX to verify distillers are operational, calibration & safety relief valves are within periodicity. Detailed material inspections are normally conducted during u/w water production.	Note: Pre-U/W - EL will inspect salinity panel & dump valves.
Inspect Tech Manual Support	NAVSEA/OEM TECHMAN
Inspect PMS Support	5315/008
Inspect relief valves are within periodicity	5315/008 36M-1
Inspect HP pump oil level	5315/008 R-2D
Inspect flexible hose condition and test tag	NSTM 505
Inspect Accumulator Pressure	5315/008 R-3
Test the operation of the product and brine flowmeters	5315/008 U-1
Test - Demonstrate water production capability during the 4 Hour Water Production Demonstration	NAVSEA/OEM TECHMAN
- Inspect RO to ensure the unit has not been set to produce above maximum recommended capacity (discharge pressure setting, production and sea water injection temperature diagram curve and tables)	5315/008 U-1
- Inspect the operating panel for alarm / unusual conditions.	NAVSEA/OEM TECHMAN
- Inspect 3 and 20 micron filter differential pressure	5315/008 R-1
- Inspect all fittings and connections for leaks	NSTM 505
- Inspect demineralizer operation	5315/008 U-1
Inspect freshwater flush	5315/008 M-2R

ELECTRICAL (EL)
PRE-UNDERWAY PHASE
LHA 1

El-005/029	SHIPS SERVICE TURBINE GENERATORS
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test reverse power relays	A-11R
Test parallel operation	IAW EOP
Test Automatic Load shedding	A-10R

El-005/029	EMERGENCY GENERATOR
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test reverse power relays	A-11R
Test Parallel Operation	IAW EOP
Test Auto start & verify loading.	R-2
Test Automatic Load shedding	A-10R

3143	400 HERTZ DISTRIBUTION SYSTEM (STATIC FREQUENCY CONVERTERS))
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test Frequency changer 60 Hz Input Circuit Breakers Shunt Trips.	A-6
Test split and parallel operation	IAW EOP

El-031	TELL-TALE PANEL/NAVIGATION SIGNAL LIGHT PANEL
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test Navigational lighting panel.	R-3
Measure insulation resistance of Navigational Lighting Panel.	Q-3
Measure insulation resistance of Signal Light Panel.	Q-3

4331	ANNOUNCING SYSTEMS
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test general, chemical, and collision alarms from all stations	Q-1R/R-1
Test 1MC from all stations	Q-1R/R-1
Test 5 MC operation	Q-2R
Test 21MC operation	Conduct Operational Test.
Measure Speaker Insulation Resistance	A-1

4751	DEGAUSSING SYSTEM
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Conduct linearity test	Q-1
Conduct ground test.	M-2
Inspect degaussing folder	NAVSEA TECH MANUAL

El-010	AUTOMATIC BUS TRANSFER EQUIPMENT
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test all engineering ABTs	S-3R/R-1
Test all remaining ABT's. (Day 2)	S-3R/R-1

4371	EVAPORATORS
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test dump valve operation	S-2
Test alarm settings	S-2

4373	WIND INDICATING SYSTEM
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test System For Proper Operation	R-1M
5081	**THERMAL IMAGING SURVEY**
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Commence Thermal Imaging Throughout The Ship **NOTE**: Any equipment surveyed that has a temperature rise of 40 degrees centigrade or above (3 or 4 star) must be repaired or tagged out prior to getting underway. The items will not be available until repairs are completed and re-shot for verification	R-1 / R-2

ELECTRICAL (EL)
UNDERWAY PHASE

NOTE: Electrical Underway Checks Consist Mainly Of Space Walk-Through Throughout The Ship.

In each space inspect the following if applicable:

(INSPECT) FUSE BOXES

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Are fuses pulled from designated circuits without danger tags affixed?	NSTM 300 - 2.4.1
Are there loose or missing locking nuts or gear adrift?	NSTM 300 – 4.8.1
Are circuits properly labeled for easy identification?	GSO 305E
Are there any bent, twisted, misaligned, or broken fuse clips?	NSTM 300 4.8.1
Is the interior rusty or dirty?	NSTM 300 – 4.8.1/5.2.4
Are fuses of the correct amperage and voltage installed?	GSO 303F NSTM 320 – 1.7.4
Are circuits fed from one set of fuses (except battle lantern circuits) multiple?	GSO 331C
Are fuse clips phosphor-bronze instead of silver plated?	NSTM 300 – 4.8.1.2
Were door hinges broken?	5100.19 SERIES NSTM 300
Are non-silver ferruled fuses installed?	NSTM 300 - 2.5.4
Are circuits over fused?	NSTM 300 – 2.5.4
Is clearance provided to permit complete accessibility for maintenance, repair, renewal of fuses, and testing?	GS0 300D

(INSPECT) BATTLE LANTERNS

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were relay-operated lanterns installed in sufficient number?	NSTM 330 – 1.6.4.3.3.1
Are lanterns installed with suitable bracket assemblies to prevent removal of lantern?	NAVSEA 0964-000-2000 NSTM 300
Were lanterns inoperative?	NSTM 330 – 3.6.2
Were test switches and relay frames grounded?	NSTM 330 – 2.1.8

(INSPECT) BATTLE LANTERNS (CON'T)

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Were lanterns located in explosion proof enclosures (prohibit)?	NSTM 330 – 1.6.4.3.2.2
Were NEALS lanterns installed and were they charged (red indicator)?	NSTM 330 – 1.6.4.3.2
Were relay operated lanterns fused?	NSTM 330 – 1.6.4.3.3.3

(INSPECT / TEST) SHORE POWER SYSTEM

COMPONENT/SYSTEM	PROPOSED PROCEDURE
Is shore power being properly rigged?	NSTM 320-2.2.7
Did shore power shunt trip interlocks trip its associated breakers when tested?	IAW PMS IAW EOSS GSO 320D
Was shore power system cabling between the receptacles and the ship's switchboard insulation resistance within EOSS or PMS Limits	SPRU NSTM 300/320
Were shore power indicating lights operative, white in color, and all screws installed?	NSTM 320 – 2.2.9
Were warning signs posted?	GSO 070H
Was there pigtail stowage installed?	GSO 320D
Does the shore power system meet the current standards: - Have a Viking Connector System - Have AQB-LF400 Amp Circuit Breaker with shunt trip - Have a phase sequencing and phase orientation devices. - Have installed ammeter and selector switch to monitor total shore power current.	GSO 320D

(INSPECT) CATHODIC PROTECTION SYSTEM	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Was the installed Cathodic Protection System operative and adjusted	GSO 633C
Were the rudder grounding straps made of 1-1/2 inch wide braided copper and brazed to the rudder stock and the hull?	NSTM 633 – 3.3.2.7 GSO 633C
Has the system been turned off greater than 15 days?	GSO 633G
Was brush rigging correctly installed?	NSTM 633- 3.3.2.6
Were shaft grounding brushes correctly installed?	NSTM 633 ICCP Tech Manual
Did shaft grounding brushes exhibit full contact with the slip ring?	NSTM 633 – 3.3.2.6 ICCP TECH MANUAL
(INSPECT / TEST) ALARM SYSTEMS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Test alarm switchboards and panels.	4351/Q-2
Were any alarm and warning systems inoperative or missing parts?	GSO 433J
(INSPECT) ORDER/INDICATING/METERING SYSTEMS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were Tank Level Indicators (TLI's) out of calibration or inoperative?	GSO 437 E
Were valve position indicator circuits misadjusted or inoperative?	GSO 430H
Were there missing or inoperative salinity cells?	GSO 531B IAW PMS
MOTOR CONTROLLERS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were interiors dirty, rusty, deteriorated, or contained gear adrift?	NSTM 302-3.3.2 GSO 320F
Were wiring diagrams, schematics or overload heater tables missing?	NSTM 302-3.3.1

MOTOR CONTROLLERS (CON'T)	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Was controller electrical wiring properly banded?	ELECT PLT. INST. STD METHODS/GSO 302F
Were Start, Stop, "Emergency Run" or Reset buttons seized, missing or inoperative?	3001/S-1/18M-1
Were rubber boots cracked, torn or missing?	NSTM 300-3.2.2 3001/S-1/18M-1
Were overload relay heaters properly sized and adjusted to provide adequate protection for the motor?	NSTM 302-3.3.2 GSO 302G
Were switches protected against inadvertent activation?	GSO 070H
Were controllers with multiple power sources properly labeled?	GSO 305C
Were motor foundations properly preserved?	GSO 631J
Were controllers and remote operating stations properly labeled?	GSO 305C
Is clearance provided to permit complete accessibility for operation, maintenance, repair, renewal of fuses, and testing?	GSO 300D
WORKBENCHES	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
- Does the workbench conform to standards set forth in NSTM 300 APP H? (Insulation, ground straps, disconnect switches, labeling, ground connections, etc)	NSTM 300 GSO 320E GSO 665 GSO 650
(INSPECT) ELECTRICAL SAFETY	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were flat irons a high-grade commercial type with a three pronged cord?	NSTM 300-2.7.3.6 GSO 640G

Were Ironing Board Stations in berthing space modified to remove spotlight and fill the access hole? Ensure irons are not hardwired.	GSO 640G
(INSPECT) ELECTRICAL SAFETY (CON'T)	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Have shorting probes been modified by installing a nylon screw in the end of the probe and soldering the clip to the conductor?	NAVELEX 0101, 110A FIG 1-3 IAW PMS
Are portable tools/devices not stamped "Double Insulated" or equipped with a three pronged cord?	NSTM 300-2.7.3.3 IAW PMS
Were Hospital grade plugs used on portable equipment?	NSTM 300-2.7.3.2.8
Were light fixtures, guards, and covers securely mounted?	NSTM 300-4.3.3
Were over-sized lamps installed in lighting fixtures?	NSTM 330-2.2.4 NSTM 330-2.2.9
Were light fixtures missing lenses, protective guards, or faceplates?	NSTM 330-2.1.4 NSTM 330-2.2.6
Did diesel module room have adequate lighting?	GSO 331B GSO 332E
Were spray-tight fixtures adequately protected against water intrusion?	NAVSEA 0964-000-2000
Was bunk lighting cable hanging, or not routed through the inside of bunk stanchions?	NAVSEA 0964-000-2000
(INSPECT) CABLING	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Was PVC cabling installed (new construction only)?	GSO 304D
Were dead-ended cables properly identified/terminated?	NSTM 300-4.6.7 GSO 304E NSTM 300-4.6.9 DOD-STD-2003-1
Were useless or improperly installed cables removed?	NSTM 300-4.6.7.1 GSO 304E
Was cabling properly supported, routed or were nylon wire ties being utilized?	GSO 304E

(INSPECT) CABLING (CON'T)	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were cables pulling out of equipment?	GSO 331E
Were cables improperly spliced?	GSO 304E NSTM 300-4.6.8 DOD-STD-2003-1
Were cables protected against being handholds or being stepped on?	GSO 304E
Was cabling run through beams without the use of chaffing rings?	NSTM 300 TABLE 300-4-4 GSO 304E
Was cabling running through metal partitions equipped with grommets?	GSO 304E NSTM 320-1.6.11
Were cable stuffing tubes properly assembled ?	NSTM 300-4.6.10.1 NSTM 300 TABLE 300-4-4 NSTM 320-1.6.11 GSO 304E
Were multiple cables running through one stuffing tube?	GSO 304E NSTM 300 TAB. 300-4-4
Were multi-cable penetrators installed in Flammable Liquid Storerooms?	GSO 304E MIL-STD-1310
(INSPECT) BUS TRANSFER EQUIPMENT	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were ABT's installed for the following: - Emergency Lighting. - IC Switchboard and panels. - Steering power panel. - Pumps associated with the main and auxiliary machinery plant having Low Voltage Release (LVR) control. - Fire pumps. - Fire extinguishing auxiliaries and controls.	NSTM 320-1.3.2 GSO 320D
Did ASCO ABT transfer switches have an electrical charge on the metal screw on the manual operator?	NAVSEA FSC SER 03E2/03E2-234
Was the sliding interlock on manual bus transfer switches effective at preventing both breakers from being closed at the same time?	NSTM 300-4.8.4.2

Are feeder circuit breaker megger holes blanked off?	NAVSEA 230319ZNOV 98
Were Normal/Alternate source indicating lights operative?	NSTM 320-2.2.6.4
(INSPECT) SHIP TELEPHONE SYSTEM	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Was the system unreliable due to unresolved software or hardware deficiencies?	NSTM 430-3 GSO 432
Test battery back-up for telephone system	NSTM 313-2.5 GSO 313J
(INSPECT) MOTORS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were motor foundations properly preserved?	NSTM 300- 5.4.3.10 GSO 631J
Was resilient mounted electrical equipment groundedto the ships hull through ground straps?	NSTM 300- 2.2.1
Did electrical rotating machinery have ball check grease fittings (zerk fittings) installed?	NSTM 244
Were coupling, belt, or chain guards effective?	GSO 320E
POWER PANELS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Do labels specify the proper information?	GSO 305E
Do Breaker ratings match the circuit label current rating?	GSO 305E
Are multi-phase circuits missing breaker connecting handles?	GSO 324C
Were power panels located inside galley spaces?	GSO 320E
Is clearance provided to permit complete accessibility?	GSO 300D
CASUALTY POWER CABLES	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were cable ends properly terminated?	GSO 304E NSTM 320-3.4.1 DOD-STD-2003
Were cables deteriorated from age, heat, and humidity?	NSTM 079-47.4.2.2.10
Were normally energized power terminals labeled?	NSTM 320-1-2-8-2 GSO 320G

Were racks properly identified as to number/length of cables assigned to the rack?	GSO 305F
CASUALTY POWER CABLES (CON'T)	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Is there a label attached at the end of the cable to indicate the length and stowage rack number?	GSO 305F DOD-STD-2003
Are cable leads properly identified for phase identification?	NSTM 320-1.2.8.2
Were cable ferrules missing or heavily oxidized?	NSTM 079-47.4.2.2.6
Was an improper number/length of cable installed on a cable rack?	NSTM 079-47.5.6.1 GSO 320G
Were wrenches missing from terminals?	NSTM 079-47.4.2.3.3
Were covers installed on power terminals?	NSTM 079-47.4.2.3.4 NSTM 079-47.4.2.3.6 GSO 320G
ELECTRICAL DISTRIBUTION EQUIPMENT	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Was electrical distribution equipment securely mounted?	NSTM 300-4.3.3 GSO 300D
Electrical distribution equipment have loose or missing covers?	NSTM 300-4.3.3
Were control knobs or fasteners missing from electrical equipment?	NSTM 300-4.3.3
Was electrical equipment protected from water intrusion?	NSTM 300-4.4.1 NSTM 300-4.4.5
Is electrical properly mounted or was it suspended solely by electrical cables?	NSTM 300-4.3.3
Were 440 multipurpose outlets properly phased?	NSTM 320-1.4.1
Did Standard Navy Receptacles (SNR) and Multi-Purpose Outlets (MPO) have an interlock switch or was the switch function such that the plug could not be removed from an energized receptacle?	NSTM 320-1.4.1
Were electrical receptacles broken or damaged?	NSTM 300-2.7.6
Were 400HZ AC, 60HZ AC, and DC convenience	GSO 320

outlets labeled to prevent equipment being used with the wrong frequency?	

SOUND POWERED TELEPHONE SYSTEMS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were any Sound Powered Circuits below 50,000 ohms resistance to ground?	GSO 432I
Were Sound Powered Call Signal Stations (growlers) inoperative, corroded, damaged or missing parts?	NSTM 430
Were Sound Powered Jackboxes improperly labeled, corroded, damaged, or missing parts?	NSTM 430-3.2

(INSPECT) LIGHTING	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Were darken ship switches operative and adjusted properly? Ship provide list of darken ship switches for survey.	DOD-HDBK-289 NSTM 330-3.6.5
Were light fixtures, guards, and covers securely mounted?	NSTM 300-4
Were over-sized lamps installed in lighting fixtures?	NSTM 330-2
Were light fixtures missing lenses, protective guards, or faceplates?	NSTM 330-2
Were spray-tight fixtures adequately protected against water intrusion?	NSTM 300-4
Did diesel module room have adequate lighting?	GSO 331B/332E

(INSPECT) BATTERY LOCKERS	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Was a Battery Log maintained?	NSTM 313-2 GSO 313F
Is there an electrical interlock between exhaust ventilation and battery charger?	5100.19C C0904 NSTM 313
Test ventilation interlocks	3131/S-2
Are Alkaline and Lead Acid Batteries being serviced in the same facility?	5100.19 C0904 GSOF
Is each locker provided with: - Rubber Gloves and Aprons. - Goggles. - Two battery fillers. - Two battery test sets. - One soda water container.	5100.19 GSO 313F NSTM 313
Does the locker contain an eye wash station and a deluge shower?	NSTM 313-2

(INSPECT) BATTERY LOCKERS (CON'T)	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Are battery storage racks greater than 12 inches between tiers?	GSO 313F
Were battery hold-down clamps provided?	GSO 313F
Are Acids stored in appropriate protective containers?	GSO 313F
Are battery charger plugs and jacks marked NEG. and POS.?	GSO 313F

(INSPECT) MISCELLANEOUS EQUIPMENT	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Is permanently mounted electrical equipment hardwired to the ships electrical system?	NSTM 330-1
Is hardwired electrical equipment permanently mounted?	NSTM 330-1
Was more than 1 multi-purpose power strip connected to one isolated receptacle circuit?	NSTM 300-2.7
Is electrical equipment mounted on non-conducted surfaces properly grounded?	3000 / A-5
Were Surge Protectors of the approved type?	3000 / A-4R
Are portable electric device power cords properly tinned?	3000 / Q-1R
Are permanent-type safety precautions, operating instructions, high voltage warning signs, and resuscitation instructions installed where required?	NSTM –H.5, I-2
Did electrical connection boxes have knockouts pushed in leaving access holes In the side?	NSTM 300-2.
Are non-watertight connection boxes being used in engineering spaces?	GSO 300D
Was rubber matting oil soaked, cracked, punctured, perforated or had imbedded metal or conductive particles?	GSO 634B

(INSPECT) MISCELLANEOUS EQUIPMENT (CON'T)	
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**
Did dress ship lights have broken, missing, or incorrect guards?	NSTM 330-1 3000/ R2
Were dress ship light receptacles labeled "Dress Ship Light Streamers. Not to be used for any other purpose"?	NSTM 330-1-
Were panel switches controlling circuits that are de-energized during darkened ship operation marked DARKENED SHIP?	NSTM 330-1
Had the float charge on the UPS batteries been reduced from 135vdc to 129vdc?	IAW PMS
Was UPS electronic cabinet bottom sealed to prevent water of oil entry from lower level engine room?	GS0 300D/324D NSTM 300-4

ELECTRICAL (EL)
POST-UNDERWAY
LHA 1

	OPEN AND INSPECT AS REQUIRED BY THE INSPECTION
COMPONENT/SYSTEM	**PROPOSED PROCEDURE**

MAIN PROPULSION
PRE-UNDERWAY PHASE
LHA 1

2210	PROPULSION BOILERS
Component/Sub-Component	Proposed Procedure
IDLE BOILER:	
Test F/O safety shutoff/root valves	2210/006 (R-5, R-6)
Test F/O Quick Closing Valves	F001/195 18M-1R; R23
Inspect burner lead bends and flange shields	NSTM 505-7.9.4
Test final control element air locks	2212/108 (A-3R)
Test F/O service tank bulkhead stop valves	5000/005 (S-2)
Test F/O service tank Quick Closing valves	5000/005 (S-2)
Test steam smothering system	EOP R150
Test safety valve hand easing gear	2210/006 (24M-2)
Test remotely close main steam stop valve	2531/004 (S-1)
Test remotely close auxiliary steam stop valve	5340/006 (S-1)
ALL BOILERS:	
Test boiler water high/low level alarms	2210/006 (Q-1R, Q-3R)
Test gauge glass hand easing gear	EOP BGG
Test gauge glass normal/emergency lighting	NSTM 221-3.4.2
Inspect bottom blow system material	S9221-D2-MMA-010, 8-3.1.3.B
Inspect bottom blow valves for leak by	NSTM 221-4-17.3
Inspect for slding feet movement	2210/006 (M-1)
Test Control Air Alarm	2212/161 (A-3R)
Test Air Lock Alarm	2212/161 (A-3R)

ALL BOILERS: (cont.)	Proposed Procedure
Inspect gauges/instruments	CRL
Inspect Stack Gas Analyzer	4361/001 (A-5)
Inspect Periscope	NSTM 221-3.5
Inspect smoke pipe expansion joint	NSTM 221-2.1.3
Inspect Boiler Casing and Insulation	2210/001 (R-1)
Inspect Sample Coolers	NSTM 220
Inspect drain valve piping	NSTM 505
Test ABC system 28 VDC UPS	2212/161 (Q-4R)
Inspect Elec ABC system laptop computer	TECH MANUAL
Verify burner barrels are serialized and hydro'd	NSTM 221 2210/006 A-8

F013	MAIN FEED PUMPS
Component/Sub-Component	Proposed Procedure
Test low suction trip/alarm	F013/101(Q-4)
Test speed limiting governor	F013/101(Q-2)
Test overspeed trip	F013/101 (Q-8)
Test/Sample lube oil	2000/001 (R-1)
Test combination exhaust/relief valve	2550 (S-8)
Test electric lube oil pump auto start	EOP FOPS
Inspect pump packing gland/mechanical seal	NSTM 503-5.3.8
Inspect flange shields	NSTM 505-7.9.4
Inspect relief valves	NSTM 505-9.17.5
Inspect gauges/instruments	CRL
Test low suction pressure safety trip emerg trip	F013/101 (Q-7)
Test low lube oil trip	F013/101 (S-4)

F14	MAIN BOOSTER PUMPS
Component/Sub-Component	Proposed Procedure
Inspect gauges	CRL
Inspect MFBP - packing gland/mechanical seal	NSTM 503-5.3.8 F14/045 A-5

F002	FORCED DRAFT BLOWERS
Component/Sub-Component	Proposed Procedure
Test low lube oil trip.	F 002/105 Q-3
Test speed limiting governor	F002/105 Q-1
Test shutter operation	F 002/105 PM-2
Test elect lube oil pump auto start/stop	F 002/105 Q-2
Inspect/Sample lube oil	2000/001 (R-1)
Inspect gauges/instruments	CRL
Inspect flange shields	NSTM 505-7.9.4
Test combination exhaust relief valve	5000/001 (72 M-1R)
Test low oil pressure trip	F002/105 (Q-5)

F004	FUEL OIL SERVICE PUMPS
Component/Sub-Component	Proposed Procedure
Test remote shut down (cold plant)	EOP FOS
Test fuel oil service constant pressure control vlv	F004/086 A-7
Inspect electric fuel oil service pump - packing gland/mechanical seal	NSTM 503-5.3.8
Inspect instruments, gauges and thermometers	JFMM V4/CRL
Test revolving strainer	EOP FOSS
Inspect discharge relief valve	NSTM 505
Inspect Fuel Oil Accumulator and N2 charge	5411/R01 A-2

F27	DEAERATING FEED TANK
Component/Sub-Component	Proposed Procedure
Test DFT gauge glass hand easing gear	LOCAL EOP
Test D.O.	NSTM 220
Inspect DFT - relief valve - vacuum breaker - gauge glass	 NSTM 505; S-3R
Inspect gauges/instruments	CRL

F 007	EMERGENCY FEED PUMP
Component/Sub-Component	Proposed Procedure
Demonstrate operation and feed boiler successfully for 10 minutes/optest by air	EOP EFP; F007/028 M-1
Inspect for water/steam leakage	EOP EFP
Inspect pump discharge relief valve	NSTM 505
Inspect gauges/instruments	CRL
2211	**BOILER INSPECTION DEVICE**
Component/Sub-Component	Proposed Procedure
Test boiler inspection device	2211/002 (M-2R, 3R)
	ADMIN/DOCUMENTATION
Component/Sub-Component	Proposed Procedure
BW/FW records (last 3 months)	NSTM 220/221
Bottom blow UT records	NSTM 220/221
Soot blow ppg UT records	NSTM 220/221
Soot blow head UT records	NSTM 220/221
Burner barrel hydrotest records	2210/006 (S-5R)

2320/2562	MAIN ENGINES
Component/Sub-Component	Proposed Procedure
Test Main Condenser SW Inlet Valve	MIP 5000/005 (A-3)
Test Main Condenser SW Outlet Valve	MIP 5000/005 (A-3)
Test Scoop Injection SW Inlet Valve	MIP 5000/005 (A-3)
Test Main Circ Pump Emerg Bilge Suction Valve	MIP 2562/R01 (S-1;2)
Test Main Engine Guarding Valve	EOP MEGV
Test Throttle Valves	EOP MEGV
Inspect Turbine Gland Seal Regulating Valve	NSTM 505
Inspect Turbine Gland Seal Dump Valve	NSTM 505
Inspect Turbine Crossover Piping Sentinel Valves	NSTM 505
Inspect Air Ejectors	EOP MEAJ
Inspect Drain systems	NSTM 505
Inspect Demineralizer Operation	EOP MCD
Verify proper alignment of hotel drain system	EOP FW

E 700	REDUCTION GEARS
Component/Sub-Component	Proposed Procedure
Test Shaft Turning Gear	E700/021 R15
Inspect Lube Oil Condition/sump level	2000/001 (R-1)
Inspect MRG Interior - Gear Teeth contact/condition - Lube Oil Spray Pattern - Casing Interior - Attached LO Pump Angle Drive Gear	E-700/017 (R-22; 24M-3) NSTM 244
Inspect Oil Flow in SFI's	NSTM 244-33.3.6
Instruments, gauges and thermometers	CRL
Inspect Casing Exterior	NSTM 241
Inspect Vent Fog Precipitator	EOP RGVS
Inspect Dehumidifier	EOP RGVS
Inspect Security Devices	NSTM 241-4.2.3
Inspect Flange Shielding	NSTM 505
Inspect Piping Systems	NSTM 505

E012	LINE SHAFT BEARINGS
Component/Sub-Component	Proposed Procedure
Inspect/Sample lube oil	MIP 2000/001 (R-1)
Inspect Sump Drain Valve	NSTM 244-2.4.3
Inspect Seals	NSTM 244-2.4.3
Inspect Thermometers	EDORM
Inspect Lubricator	EDORM
Inspect Dip Stick	EDORM
Inspect Lock Wires	EDORM

E 012	STERN TUBE SEALS
Component/Sub-Component	Proposed Procedure
Test Cooling Water Low Flow Alarm	EOP STCW
Test Inflatable Seal	E012/ (S-2,5,6)
Inspect Gauges	CRL
Inspect Cooling Water Piping	NSTM 505
Inspect/shift Cooling Water Strainer/Filter	E012 Q-3R
Inspect underway seal leakage rate	NSTM 244
Inspect LP Air Supply	NSTM 505
Inspect LP Piping/Hoses/Fittings	NSTM 505
Inspect CO2/N2 Piping/Fitting	E012 24M-1
Inspect Emergency Flax Packing Kit	S9243-BG-MMA-01/0SYN4

1130	HULL STRUCTURE
Component/Sub-Component	Proposed Procedure
Inspect Bilges/Angle Irons	NSTM 090
Inspect Deck Plates	NSTM 090
Inspect Equipment Foundations and resilient mounts	NSTM 090
Inspect Paint and Preservation	NSTM 631(V2) (V3)
Inspect Pipe Brackets/Hangers	A-700/ 038 (18M-1R)
Inspect Lighting	NSTM 300

2620	LUBE OIL SYSTEMS
Component/Sub-Component	Proposed Procedure
Test Main Engine Lube Oil Sequencing	2620/R17 (Q-1,2)
Test Main Engine Low Lube Oil Alarm	2620/R17 (Q-1,2)
Inspect Electric Lube Oil Pump - Mechanical Seals - Valves, piping and Unloading Valve	NSTM 505 NSTM 503; R-4
Inspect attached Main Engine Lube Oil Pump - Mechanical Seals	2620/801 (R-5)
Inspect Lube Oil Strainer Baskets and Enclosure	2621/R15 24M-1R
Inspect system flange shields	NSTM 505
Inspect lube oil pump relief valves/test data tag	2620/001 (60M-1)
Inspect gauges and instruments	CRL
Inspect Temp Regulating Valve	NSTM 505
Demonstrate Lube Oil Purifier Operation	EOP LOPO
Inspect Lube Oil Purifier Heater relief valve/test data tag	NSTN 505
Inspect Lube oil heater	NSTM 505
Demonstrate L/O purifier emergency stop	EOP LOPO
Demonstrate Lube Oil Purifier Efficiency	EOP LOPO; NSTM 262

	CONTROLS
Component/Sub-Component	Proposed Procedure
Test EOT Indicator	EOP EOT
Test RPM Indicator	EOP EOT
Test Console Alarms and Indicators	EOP EOT
Test Wrong Direction Alarm	EOP EOT

E013	GENERATORS
Component/Sub-Component	Proposed Procedure
Inspect Lube Oil Condition/ Sump Level	2000/001 (R-1,2)
Inspect Lube Oil SFIs	NSTM 241-2.3.8; 244-3.3.6
Inspect Vent Fog Precipitator	NSTM 241-3.2.6
Inspect/Shift Lube Oil Strainer	E013/189 R-10
Airbox Telltale Drains	NSTM 310
Test Alarm Panel	EOP TG
Inspect Gland Seal Operation	EOP TG
Inspect Aux Circ Pump - Packing gland/mechanical seal	EOP TG
Inspect Aux Cond Pump - Packing gland/mechanical seal	EOP TG
Inspect Aux Air Ejectors	EOP TG
Test Lube Oil Pump Autostart	EOP TG
Test Low Lube Oil Alarm	E013/189 S-4
Inspect Turbine Casing Relief Valve	E013/189 S-2
Test Overspeed Trip	E013/189 Q-1
Test Manual Trip	E013/189 Q-1
Test Back Pressure Trip	E013/189 A-10
Test Auxiliary Condenser SW Inlet Valve	E004/170 Q-2
Test Auxiliary Condenser SW Outlet Valve	E004/170 Q-2
Inspect centrafilter	EOP TG E013/189 18M-3
Inspect flange shields	NSTM 505
Inspect duplex oil filter(GOV)	EOP TG
Inspect Aux Condenser sight glass	EOP TG

MAIN PROPULSION
UNDERWAY PHASE
LHA 1

	TEAM ARRIVAL
Component/Sub-Component	Proposed Procedure
Check applicable equipment for correction of deficiencies.	
Tour space, ensure ready for sea.	
	MISCELLANEOUS
Inspect Oil Lab, sampling equipment	NSTM 220
Complete Open and Inspect List and give a copy to the Engineer Officer.	
	CHELANT TREATMENT SYSTEM
Inspect Spill Locker and inventory	NSTM 220
Inspect hydrazine locker	NSTM 220
Inspect injection cabinet	NSTM 220
Inspect chelant treatment tank and associated equipment	NSTM 220
	DEMONSTRATIONS
Demonstrate Full Power ahead (1 hour)	PMS/EOSS/POG/9094.1B
Demonstrate Quick Reversal Astern	POG/Full Power Memo/EOSS
Demonstrate Quick Reversal Ahead	POG/Full Power Memo/EOSS
Demonstrate soot blower operation as soon as possible after underway. Note: Demonstrate soot blower head pressure PMS on one rotating and one stationary head per boiler while blowing tubes.	EOP SOBO
Demonstrate boiler flex test (all boilers will be flexed prior to Full power.)	2212/161 (S-4R)
Demonstrate fuel oil purifier (s) operation	EOP FOP
Demonstrate purifier (s)emergency stop capability	EOP FOP